

THE AMENDMENTS

In the Claims:

1. (Currently Amended) A conjugate comprising (a) an amphiphilic transport peptide of human origin which is capable of penetrating the plasma membrane as a transmembrane module, (b) a nuclear localization sequence, ~~wherein said nuclear localization sequence is covalently-coupled to the transmembrane module via a cleavable spacer,~~ and (c) a signalling and/or drug-carrying signaling module comprising an image creating compound selected from the group consisting of Gd, Ga, Mn, I, Fe and F; wherein the amphiphilic transport peptide is covalently coupled to the nuclear localization sequence via a cleavable spacer, and the nuclear localization sequence is covalently coupled to the signaling module via a non-cleavable spacer.
2. (Cancelled)
3. (Currently Amended) The conjugate of claim 1, wherein the ~~transmembrane module amphiphilic transport peptide is the human homeobox protein HOX-B1, homeobox protein 5 (HBX5), homeobox protein 7 (HBX7), or homeobox protein D9 (HXD9) or derivative thereof having an amino acid sequence identity to HOX-B1 of at least 60%.~~
4. (Currently Amended) The conjugate of claim 3, wherein the ~~transmembrane module amphiphilic transport peptide~~ comprises the amino acid sequence TQVKIWFQNRMRMKQKK (SEQ ID NO: 1).
5. (Currently Amended) The conjugate according to claim 1, wherein the nuclear localization sequence comprises the an amino acid sequence selected from the group consisting of PKKKRKV (SEQ ID NO: 3), or KPKRVKK (SEQ ID NO: 5), VQKRQKLMP (SEQ ID NO: 6), SKKKKTKV (SEQ ID NO: 7), GRKRKKRT (SEQ ID NO: 8), GKKKRKREKL (SEQ ID NO: 9), ERKKRRRE (SEQ ID NO: 10) and FKKFRKF (SEQ ID NO: 11).
6. (Cancelled)

7. (Currently Amended) The conjugate according to claim [[6]] 1, wherein the cleavable spacer comprises a cleavable disulfide bridge.
8. (Currently Amended) The conjugate according to claim [[6]] 1, wherein the non-cleavable spacer [[III]] is polylysine.
9. (Currently Amended) The conjugate according to claim [[6]] 1, wherein the non-cleavable spacer [[III]] carries an FITC label.
- 10-21. (Cancelled)
22. (New) The conjugate according to claim 1, wherein the image creating compound is linked to the nuclear localization sequence as a chelate complex.
23. (New) The conjugate according to claim 22, wherein the chelate complex comprises diethylenetriaminepentaacetic acid (DTPA) as a chelating agent.
24. (New) The conjugate according to claim 22, wherein the chelate complex is selected from the group consisting of Gd-BOPTA, Gd-DOTA, Gd-EOB-DTBA, Gd-DTPA-BMA, Gd-HP-DOBA, Gd-DTPA-BMEA, Gd-HIDA, Mn-DPDP, and cyclized DTPA.
25. (New) The conjugate according to claim 1, wherein a chemotherapeutical drug is covalently coupled to the conjugate.
26. (New) The conjugate according to claim 25, wherein the chemotherapeutical drug is an alkylating compound or a cytotoxic compound.
27. (New) The conjugate according to claim 25, wherein the conjugate has the following structure: amphiphilic transport peptide – cleavable spacer – nuclear localization sequence – non-cleavable spacer - signalling module – chemotherapeutical drug.

28. (New) A conjugate comprising (a) an amphiphilic transport peptide of human origin selected from the group consisting of homeobox protein HOX-B1, homeobox protein 5 (HBX5), homeobox protein 7 (HBX7), and homeobox protein D9 (HXD9), (b) a nuclear localization sequence, and (c) a signaling module comprising an image creating compound selected from the group consisting of Gd, Ga, Mn, I, Fe and F; wherein the amphiphilic transport peptide is covalently coupled to the nuclear localization sequence via a cleavable spacer, and the nuclear localization sequence is covalently coupled to the signaling module via a non-cleavable spacer.

29. (New) The conjugate according to claim 28, wherein a chemotherapeutical drug is covalently coupled to the conjugate.

30 (New) The conjugate according to claim 28, wherein the image creating compound is linked to the nuclear localization sequence as a chelate complex.

31. (New) The conjugate according to claim 28, wherein the nuclear localization sequence comprises an amino acid sequence selected from the group consisting of PKKKRKV (SEQ ID NO: 3), KPKRVKK (SEQ ID NO: 5), VQRKRQKLMP (SEQ ID NO: 6), SKKKKTKV (SEQ ID NO: 7), GRKRKKRT (SEQ ID NO: 8), GKKKKRKREKL (SEQ ID NO: 9), ERKKRRRE (SEQ ID NO: 10) and FKKFRKF (SEQ ID NO: 11).